Critical Operative Maneuvers in Urologic Surgery

RICHARD E. WILSON

1929-1989
Peter Bent Brigham Hospital
Harvard Medical School

Gifted with superb operative skills combined with solid clinical judgment, he remained unassuming, modest, and ever preoccupied with the many tasks at hand.
We will always remember him for his generosity in sharing his knowledge, his expertise, and his passion with everyone who was as motivated and committed to surgery as he.

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TO

our patients

who have trusted us through the years

our teachers

who were generous to share their experiences

our colleagues

who continue to teach and share with us

our residents

who bring fresh ideas that challenge old concepts

our loved ones

who have sustained us

PREFACE

In most procedures there are a few *distinct steps and maneuvers* critical to the success of the operation. Because it is necessary for authors of survey texts and general atlases to cover a broad and sequential base of information, they are often unable to devote sufficient space and attention to the elaboration of these critical maneuvers. Yet it is these practical points that become the "pearls" of operative surgery, timeless and worthy of being passed on to each generation of surgeons. Where there is insufficient coverage given to these specific important maneuvers in other texts, we have elaborated upon them using greater detail and numerous illustrations. Consequently, this book should be used as a companion to other texts.

We have selected a collection of these "pearls" and although the descriptions are sequential, we have omitted many steps of each operation with the assumption that surgeons will bring to the reading of this text a basic understanding of the operations as well as some operating room experience with the specific procedures discussed.

Thirty-one operations plus one chapter on rectal injury are presented. Our goal is to address the urologic surgeon who seeks the versatility to perform a wide variety of procedures, from excisional surgery to complex reconstructive surgery.

From our combined surgical experience of 50 years as well as our close association with each other in the operating suites of one institution, we have selected these procedures because they are the simplest and the most successful with the fewest complications and the lowest reoperation rate.

In the changing arena of health care, health issues and economic issues are inextricably wedded to each other. Facing an increasing work load but a decreasing operating load, the surgeon is still expected to perform surgery effectively, quickly, and cheaply while remaining accountable for long-term results. He or she is measured not just by traditional standards but by preoperative, intraoperative, and postoperative economic considerations. This is known as *economic credentialing.* The referral of complex cases to tertiary medical centers becomes more difficult as increasing economic pressures are brought to bear. The surgeon is expected to handle common surgical problems as well as the more complex varieties of surgery in order to maintain a *competitive edge.*

What we present in this book is what good surgeons do instinctively: long before an actual operation, he or she will explore a *mental and visual checklist* of the surgical procedure that lies ahead and will consider the potential for unique problems and their solutions.

This practical operative guide is totally "user friendly" for the busy, active urologic surgeon. The format and design of the book allow the reader to see illustrations and corresponding prose without the need to flip pages. The book lists key points and potential problems at the end of the chapters.

SPECIAL FEATURES

Thoracoabdominal Radical Nephrectomy and Retroperitoneal Lymph Node Dissection (Chapters 1 and 5)

These two chapters are more comprehensive with regard to anatomy and approaches to the high retroperitoneum than we have seen in any urologic text. The spatial relationship of the superior mesenteric artery, the pancreas, the duodenum, and the renal vasculature is clearly presented in two-dimensional artwork and photographs of three-dimensional models. The variation of the adrenal veins and the variations of the inferior mesenteric vein draining into the portal system are clearly presented. Both abdominal and thoracoabdominal approaches are explored for right and left tumors. Tumor vascular extensions into the infrahepatic vena cava are discussed, and the surgeon is given a clear strategy for dealing with liver and splenic injuries during operative procedures.

Radical Cystectomy in the Male and Female Patient (Chapters 9 and 10)

In the male patient, we describe a nerve-sparing (potency preservation) approach using the traditional proximal dissection through the vesicorectal junction as well as the distal dissection as done in the radical retropubic prostatectomy. The lateral and posterior pedicles are "bundled" together and stapled with the Endo GIA 60 (4.8 staples). These modifications have made a difficult operation simple and quick, with minimal blood loss. The average time required for the cystectomy part of the operation in our institution is 50 minutes, thus leaving more time for the reconstruction procedure.

In the female patient, we use a traditional proximal dissection through the pouch of Douglas but a distal vaginal dissection as a modification of the Raz operation. We often start with the patient in the lithotomy position for the distal vaginal dissection and then reposition to a flexed supine configuration for the formal cystectomy. Special considerations are included for posthysterectomy patients with distorted anatomy near the rectum; for sexually active women with limited disease, a vaginal dissection allows maximal preservation of the natural anatomy.

Urinary Continent Diversions—The Indiana Pouch and the Ileoneobladder (Hautmann Type) (Chapters 12 and 13)

We based our selection of the two continent diversions on several factors: time-tested proof of good long-term results, patients' ability to adapt quickly to the diversion and to use it with ease, simple operative procedure without use of nonorganic materials, few complications, and low reoperation rate.

The Indiana pouch with the detubularized colon has a good urinary storage capacity and the continence mechanism is excellent. We use a quick straight-needle sewing technique as well as speedy stapling with the absorbable GIA 75 to construct the pouch. The stapled ileal stoma tapered to a Fr 14 circumference has been the most successful formula for easy catheterization.

The ileoneobladder, procedure of choice at Memorial Sloan Kettering Hospital, was selected for its low rate of complications and reoperations. We agree with their philosophy. We have given special considerations to the more difficult left ureterointestinal anastomosis and the maneuvers to facilitate the approximation of the ileoneobladder to the urethral stump.

Comparisons of Stress Incontinence Operations and the Raz and Modified Burch Procedures (Chapters 14, 15, and 16)

We present a comparative chart and illustrations of the various operations for stress incontinence. We discuss the principle of correction of the hypermobility, the correction stitches placed at the bladder neck region, and a noncompression of the urethra by placement of lateral stitches as exemplified by the Raz procedure.

The modified Burch procedure, described by Tanagho, removes some of the misconceptions about this operative procedure. This operation is simple, it corrects small cystoceles simultaneously, and it rarely leads to surgical overcorrection with subsequent bladder instability and temporary urinary retention.

The same pelvic fascial dissection described in the Raz operation is adapted for the sling procedure utilizing a strip of rectus fascia or of inorganic material. A combination of the vaginal dissection (Raz) and the retropubic dissection (Burch) procedures is used for artificial sphincter placement. These two operations are used to correct Type III stress incontinence.

Radical Retropubic Prostatectomy and Radical Perineal Prostatectomy (Chapters 18 and 19)

At one time or another, all surgeons have encountered massive bleeding during the division of the dorsal venous complex in a radical retropubic prostatectomy. We present some consistently safe and reliable variations on the ligation and division of the venous complex. The dissection preserving the bladder neck, which is incorporated in our approach to this operation, has resulted in earlier patient continence recovery and fewer strictures.

The chapter on the radical perineal prostatectomy is one of the clearest descriptions we have seen. This operation, with a nerve-sparing modification, avoids the entire dorsal venous complex, which results in minimal blood loss and rapid patient recovery. The most difficult part of the operation is the takedown of the rectourethralis muscle. We have described a safe technique and have used photographs of three-dimensional models as well as traditional drawings.

Urethroplasty and the Use of Deepithelialization Technique (Chapters 22 and 23)

For both anterior and posterior urethroplasty, the principles of surgery described by Richard Turner-Warwick are timeless. This chapter has numerous illustrations and photographs of three-dimensional models to show these principles so that they are easily understood and are useful for the reconstructive surgeon. We have included the deepithelialization technique described by Durham Smith for surgery of hypospadias and have incorporated it into urethroplasties for stricture disease.

Rectal Injury in Urologic Surgery (Chapter 27)

Considering the fact that so much of the urologic surgeon's work is in the pelvis and perineum with

such intimate proximity to the rectum, we have included a discussion of the potential areas of injury, the maneuvers to avoid it, and the surgical maneuvers after a rectal injury.

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This text contains 742 illustrations. They are based on the concept of *"SUBTRACTION"* which was described by Paul Ver Vais, eminent illustrator for *Urological Surgery* by Reuben Flocks (1957, with five subsequent reprintings). Ver Vais said that unlike aesthetic art, communicative art must *"SUBTRACT"* unnecessary elements in order to focus on the important points. The artwork is a cross between realistic and schematic. Proportions are changed to emphasize small areas. "Ghosting" or drawings showing layers are used to show different planes and tissues beneath the surface. Directional arrows are used to show the movement of the surgeon's hand during a maneuver.

For convenience, we have included a few outstanding illustrations from other texts.

In addition to traditional drawings, we have used halftone photographs of sculpted three-dimensional models to enhance comprehension. At present, we are also digitizing these three-dimensional models as a CD. The models provide a 180- to 360-degree view of the specific anatomy discussed in conjunction with selected traditional illustrations to enhance total visual comprehension. These innovations are unique, and credit should be given to Mosby Year–Book and especially to medical editor Susie Baxter and former medical editor David Marshall for their vision, their foresight, and their support.

We are grateful to American Medical Systems, Inc. (Pfizer); Bayer, Pharmaceutical Division; Merck, Human Division; Schering, Division of Oncology; T.A.P. Pharmaceuticals, Inc.; and U.S. Surgical, Inc., for their generous educational grants that supported in part the costs that are inherent in the production and publication of such a project as this.

We thank our working team, who demonstrated unbelievable "staying power" for making this publication a reality: Judy Guenther, the main illustrator; Deborah Banker, the sculptor; Kimberly Ernst, the photographer; Paul McGuire and Julian Gooding, the computer and video geniuses; Peggy Yoest and Terra S. Walters, the editors and administrators; and the reviewers, Dr. Simon Chung, Dr. John Danneberger, Dr. Frank Melograna, and Dr. Marguerite Lippert, for their dedication.

We hope this book will be helpful in your daily surgical practice.

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Harry C. Miller, MD

It has been said that a picture may be worth a thousand words, but it is but a few words which bring focus to a picture.

Contents